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DATAMATION

FOR MANAGERS OF INFORMATION TECHNOLOGY WORLDWIDE

THE NEW IBM

Can Customers, Managers and Allies Move IBM Into High Gear?

Also in This Issue:

Is Your Data Ready for the Repository?

On-line Applications Grow Up

The Promise and Problems of Fractional T1

Washington's IS Leadership Gap

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DATAMATION

FOR MANAGERS OF INFORMATION TECHNOLOGY WORLDWIDE

COVER STORY

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Managers like Robin Sternbergh are cutting through blue tape.

Allies like CTG's David Campbell give IBM's SAA professional service.

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BY JEFF MOAD AND SUSAN KERR The needs of information systems users are growing so complex that IBM has had to rethink the way it does business. It's pushing power and people out to its field offices, pushing products out the door faster and pushing alliances wherever they add value or insight. But will that be enough to satisfy customers?

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Cover photography by David Bradley CAD drawing by Pat Boyle

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Entering the Age of Collaboration

The ability to collaborate will separate winners from losers in the global race of competitiveness in the 1990s. Externally, organizations must allow customers, suppliers, third parties and even competitors in some instances to actively participate in the day-to-day operation of their enterprises, as well as in the long-term strategies they pursue. Internally, the managers of such organizations must work together to ensure that common objectives are not sacrificed in the name of decentralized decision making, the hallmark of today's ever-flattening corporations.

This axiom—collaborate to compete—holds true for all types of organizations. A university can only thrive if students, professors, corporate affiliates and suppliers (of textbooks, PCs, etc.) educate themselves about the roles they should play. A hospital can only deliver quality care if patients, nurses, doctors, insurance carriers, government agencies and medical equipment makers tackle the issue of exploding health-care costs in unison. And so on.

Photographs by Dave Bradley

COLLABORATORS MOAD AND KERR interviewed IBM execs, customers and competitors.

But perhaps no other segment of commerce and industry is as affected by the call of collaboration as the computer industry itself. The increasingly complex requirements of information systems customers demand unprecedented levels of integration and cooperation from suppliers of such systems. This, in fact, is the essence of the New IBM. It's also the company's biggest challenge—perhaps the biggest ever.

To judge whether IBM is adapting quickly enough to the collaborative environment necessary to nurture the sorts of IS solutions customers will demand in this new decade, senior writer Jeff Moad and San Jose bureau manager Susan Kerr joined forces to produce this issue's cover story. Their interviews with 20 IBM customers; a half-dozen IBM line of business executives; and handfuls of IBM allies, competitors and experts yields a three-part analysis unprecedented in its depth and scope.

"The changes at IBM have focused on two broad fronts," Moad and Kerr report. "The first involves getting the company's massive field sales and support machine, as well as its product development organizations, to understand and solve users' problems rather than just blindly pitch IBM products. The second is to increase the number and type of software applications running on IBM computers so that users' problems can be solved by IBM—or by a rapidly expanding network of . . . partners."

Beyond exploring how customers, managers and allies are shaping IS solutions at the New IBM, Moad and Kerr offer terrific insights to thoughtful managers of all stripes—IS heads, CFOs, business unit chiefs, etc.—insights into the collaborative process so many of them must join, if they haven't already, to win the race ahead.

Looking Ahead in 1990

Collaboration on a broad scale has been under way for a number of weeks at the magazine. DATAMATION's staff of experienced bureau managers and editors has been canvassing IS vendors, users and analysts in search of a framework that readers can use to build winning IS strategies in the years ahead. Fittingly titled, "Systems and Strategies for the '90s," the framework will be erected in a year-long series of articles that begins in our next issue.

Make it a great New Year and an even better New Decade.

Tim Mead, Editor-in-Chief

DATAMATION

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On-Line Applications GROW UP

The ever-increasing need for real-time business information is pushing on-line transaction-processing applications out of their once narrow market niches.

BY LEILA DAVIS

Competitive business pressures and demands for faster customer services in most industries are generating more interest in on-line transaction processing, say IS executives, and new OLTP systems with better price/performance are making the conversion to on-line more attractive economically.

The recent introductions of mainframe-class OLTP machines from Tandem Computers Inc. and Digital Equipment Corp. give user companies an assured growth path, as more new applications come on line and the size of existing on-line transactions grows, requiring more capacity.

"Time is compressing," says Jon W. d'Alessio, vice president of operations planning and information technology at McKesson Corp., the San Francisco-based pharmaceuticals maker, and a prime example of the type of user that is boosting the market. "We will move most of our systems on line; there is too much of an efficiency gain not to do it. We are trying to stay ahead of everyone else. We want to have quicker and better service than our competitors."

CoBank National Bank for Cooperatives, in Denver, is also eying mainframe power to fuel the growth of its on-line systems. "Within three years, we will need to move up to a 30MIPS machine for all our on-line applications; I feel more comfortable knowing the DEC 9000 is out there," says William J. Ross, CoBank vice president for information management.

Analysts predict growth at all levels of OLTP, as evidenced by the release of smaller machines, such as Stratus Computer Inc.'s new low-end XA2000 model 30.

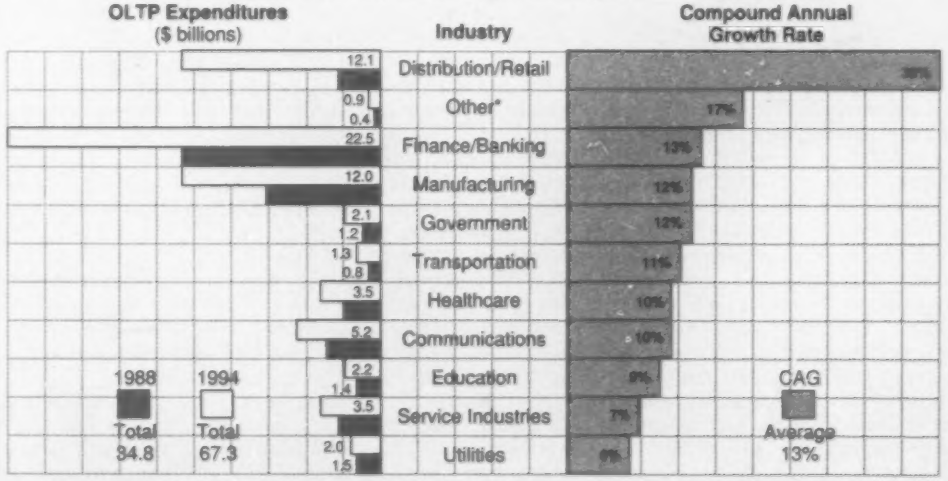
All of this activity belies OLTP's historical classification as a specialized market segment. Indeed, some users say they will move their core mainframe applications that interact with OLTP applications to OLTP systems. Overall, San Jose, Calif.-based Dataquest Inc. predicts the worldwide OLTP market will have reached $31.4 billion in 1989 and will grow to $35.8 billion this year. By 1993, Dataquest sees a $52.5 billion market. Figures from Gartner Group Inc. show even stronger future growth, predicting a $70 billion market by 1992.

Jeffrey Schulman, vice president of software management strategies at the Stamford, Conn.-based Gartner Group, says of the growth: "Look for more front-office on-line applications. OLTP is coming out of the back room and becoming very interactive with the customer."

Faster, better customer service was the motivation for cosmetics maker Helene

Which Users Are Adopting On-Line Systems

Companies in distribution and retailing, with their requirements for just-in-time inventory and lightning fast customer service, lead the way in adopting on-line transaction systems.



*Includes Agriculture, Construction, Mining, etc.

Curtis Industries Inc. in Chicago to plan an on-line order-entry and finished goods inventory system. The firm changed its strategy of being a low-cost maker of cosmetics products to being the supplier with the best service to its retailers, according to Tom Gildea, vice president of business information services.

The strategic shift was prompted by the movement toward what the retail industry calls "quick response," a strategy of better manufacturing and inventory management using information systems technology, says Gildea. A new 300,000-square-foot, $32-million Helene Curtis warehouse is expected to decrease the firm's shipping costs by 25% when fully equipped with a Stratus XA2000 model 120 running warehouse management system software from Zethcon Corp. of Park Ridge, Ill.

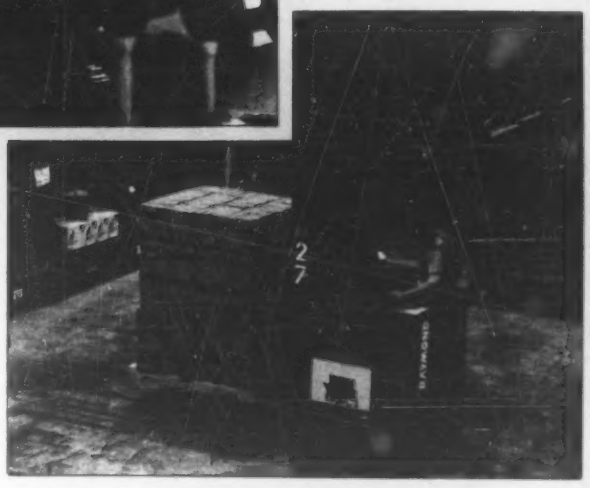
On-Line Businesses

The change at Helene Curtis illustrates the shift in perception that is propelling the growth of on-line processing systems, says Bill Elliott, Stratus' vice president of strategic planning. "There is a shift from the on-line transactions being a support service to the on-line service being the business itself. It is almost a mental shift rather than a technological shift," Elliott says. "For example, people have been running automated warehouses for years, but now Helene Curtis sees it as a strategic business element."

McKesson is using Tandem systems to run two separate strategic on-line applications—a prescription claims service (PCS) and an on-line inventory information system for its pharmacist customers. The PCS will be converted to the new Tandem NonStop Cyclone, introduced last October, as soon as that mainframe becomes available early this year.

> ☐ **SOME BUSINESSES COULD TAKE AN OUTAGE OF AN HOUR OR SO, BUT WE CAN'T.**

The PCS processes prescription insurance claims on line through a credit card authorization procedure while the prescription customer waits in the pharmacy. The customer runs the credit card through a reader, and McKesson determines the customer's eligibility and deductible on line, so the pharmacist can charge the customer accordingly. The PCS then sends the claims-processing transaction to the insurance company, often in batch mode later in the day.



MANAGING INVENTORY: Helene Curtis uses radio frequency terminals aboard lift trucks (inset) to display pickup instructions generated by its Stratus-based distribution system.

Today, the PCS runs on Tandem VLX machines that link into an IBM 3090 model 200E. McKesson uses the Tandem Guardian operating system on the VLXs in combination with proprietary programming. When converted to the Cyclone, there will be no changes in the application, just "more horsepower," says d'Alessio.

McKesson also uses Tandem VLXs for an on-line application that lets pharmacists know whether products being ordered are in stock, indicating the products can be delivered. "We hadn't been able to tell a pharmacist customer whether we had it [a particular product] in stock before, so he had to wait until it either showed up or it didn't," says d'Alessio.

Although some IS executives may employ an IBM 3090 such as the new model J for OLTP, most prefer not to expose on-line transactions to the necessary maintenance and management downtime required for the core mainframe, users and analysts say. Instead they prefer to use a dedicated OLTP machine designed with a higher degree of reliability.

Helene Curtis, like McKesson, has an IBM mainframe linked to its Stratus OLTP system. "I just recently had a conversation with some counterparts about using an IBM mainframe directly for OLTP," notes Gildea. "The relative economics of the 3090s are very expensive. We won't ever use our mainframe for OLTP because we have other things running on it, and because we can't spare the downtime for maintenance.

"And because 70% of the data in our warehouse system is germane only to the warehouse and doesn't need to go to the mainframe, it would create an additional expense to have that on the mainframe," he adds.

The cosmetics maker's 3084 running MVS/XA contains its DB2-based order entry system. "Warehouse inventory status is updated constantly on the 3084. Now it is actually batch, but it will be on line soon," says Gildea. However, although inventory will be updated on the IBM machine, all transaction processing is being done on the Stratus system.

Encroaching on Batch Territory

If the core mainframe may not take over OLTP operations, OLTP machines may take over at least some applications from the core mainframes. Some analysts see Cyclone as a direct competitor of IBM's 3090 for applications that interface with on-line processing systems.

McKesson's d'Alessio sees that competition in own his shop. Some batch claims-processing procedures will be moved from the 3090 to the Cyclone when it arrives. "There is a constant tension between the two, but that is good, because both machines will keep us pushing for the best possible solution."

According to Jeffry Beeler, an industry analyst at Dataquest, Tandem had been marketing to IBM customers in an effort to capture only their OLTP processing. "[But] now they are saying, 'give us everything.'"

Tandem isn't the only vendor taking aim at IBM. Digital Equipment Corp.'s new VAX 9000 machines are aimed at giving VAX shops with rapidly proliferating OLTP applications a migration path. "It used to be that a DEC shop had to convert

to an IBM mainframe down the line, but we have been lucky because our growth has coincided with DEC hardware announcements, and now we are seeing large OLTP software applications becoming available," says CoBank's Ross. "We will save a lot of money by not having to convert."

Like Tandem, Digital users could choose to expand their OLTP applications by stringing smaller VAXs together rather than moving to a mainframe machine. "But I didn't like the complexity of stringing a lot of 6300s together," says Ross, who already has twin 6300s (a 6330 and a 6310) as the nucleus of a system powering 10 regional offices and the parent office in Denver. Eighty percent of the systems' operations are on line.

McKesson's d'Alessio makes the same observation about having chosen Cyclone, rather than adding more VLX machines. "You can link up to six VLXs, but after that, you have to have two separate systems. With Cyclone, you have one system, so it is easier to maintain and manage; there are fewer interconnections. There is a fair amount of value in the simplicity," he says.

Stratus says it recognizes the need for more horsepower in OLTP applications, but is addressing it for the time being by linking its XA2000 systems together. "We introduced the model 30 so people could afford to move applications on line," says Stratus' Elliott. "But we don't expect to sell a lot of them individually. If a customer wants the same system in every location, they can put one wherever they need it."

Until it moves to a VAX 9000, Digital user CoBank is satisfied with its VAXcluster. The system is delivering the extensive access to on-line applications CoBank requires at its 10 regional offices (10 separate banks that merged last year). CoBank's VAXs run VMS and have an integrated database using MUMPS as its database language. Its main on-line application, a loan-accounting system, is a package called Profile from Sanchez Computer Associates Inc. of Malvern, Pa.

□ NEW MAINFRAME CLASS OLTP MACHINES GIVE USER COMPANIES AN ASSURED GROWTH PATH.

Profile runs retail and wholesale banking operations, such as teller transaction processing and mortgage loan processing on line, and is one of the few large-scale on-line applications specifically written for DEC VAX hardware, according to Ross. The first of the 10 regional offices went up on Profile in late 1989. The second office will come up in February, with another office being added each month after that. The budget to bring all 10 offices onto the VAXcluster, including the on-line applications, has been set at $3.5 million, says Ross.

Also provided on-line from the 15MIPS VAXcluster are word-processing, spreadsheet and ad hoc report-writing capabilities. Having a high percentage of on-line transaction processing is a strategy at CoBank, where data entry no longer exists as a dedicated job function.

"We only have two tape drives, and one is for backups; everything else is on line. We made a concentrated effort to bring up on-line applications rather than batch because of the high cost of people. Instead of employing a lot of data entry people, we've put those people out in the field, working with customers," says Ross.

Because so much of the bank's operations are on line, reliability is extremely important. For prime transaction time, Ross demands 99.5% availability per month; during off hours, he demands 98% availability per month. "The machines have been extremely reliable, running at 100% for the past six consecutive months at the central office," says Ross.

The Reliability Factor

Reliability was a crucial factor at Helene Curtis, as well—so much so that the fault tolerance of Stratus' systems was the overriding consideration in its choice, according to Gildea. "Our reason for picking Stratus was the fault tolerance. I did have a conversation with DEC reps, but high reliability is not fault tolerance. Our entire warehouse is dependent on this system. Any delay is intolerable to us. Some businesses could take an outage of an hour or so, but we can't."

Tom Stanek, executive vice president of General Computer Corp. (GCC) in Twinsburg, Ohio, also chose Stratus for its fault-tolerant capabilities in converting an existing on-line operation from NEC Information Systems' Astra machines to a Stratus XA2000 model 120 running Stratus' VOS operating system. "The overriding factor was fault tolerance," says Stanek, "and the greater communications capabilities of the Stratus were also considered."

GCC is a third-party insurance claims adjudication firm with an application similar to McKesson's PCS. The application, by maintaining a database of customer information from insurance carriers, offers on-line claims adjudication to pharmacists while customers wait. General Computer's Stratus can receive data from whatever terminal the pharmacist happens to have, whether it be a credit card terminal or point-of-sale device.

GCC converted to Stratus in late 1989. Now customers at its client pharmacies aren't kept waiting an hour or more in the event of a system failure. "While we were running the old and new systems in parallel during the conversion, we had a six-second power outage. It took one hour to recover the files and resume operations on the Astras. The Stratus brought us back within two minutes," says Stanek.

□ OLTP MACHINES MAY TAKE OVER SOME APPLICATIONS FROM THE CORE MAINFRAMES.

The Stratus system, which cost GCC between $750,000 and $1 million, will accommodate the firm for the near future, says Stanek, but given the fast growth in his industry, Stanek foresees a need for more horsepower.

"As things grow, we may have to move to a fault-tolerant mainframe, or couple more than one Stratus with a mainframe," he says. "The growth is inevitable. There is too much cost incentive not to have on-line capabilities, and the price/performance of the technology is making it more justifiable than ever before."

Stanek anticipates extending GCC's on-line claims adjudication to physicians' offices in the near future. "We are already planning for physicians' claims. We have to get the insurance companies to accept it technically; they have already accepted the concept."

McKesson also has a clear view of its on-line future. "Now we have some customer data and some product data on line. We need to move our financial systems on line and then take a look at warehouse management. We'd like to integrate it into a paperless warehouse, using bar coding, radio frequency devices in the warehouses, ordering by electronic data interchange and payment by electronic funds transfer," says d'Alessio.

Gartner Group's Schulman expects large, complex transactions such as d'Alessio's to replace the traditionally "skinny, noncomplex" transactions, as the OLTP arena continues to grow at a rate faster than the rest of the market. □

Heading for a Soft Landing

Although the U.S. computer industry is struggling financially, it's managing to produce higher performance products. Is this an opportunity for users? Yes and no.

BY MADELINE FRANCHI

Depending on your perspective, the U.S. computer industry is just completing either one of its worst years or one of its best in recent memory. Judged by shipments of hardware measured in dollars, systems manufacturers have experienced their worst growth period since the slump of 1986; their hardware sales should climb only 1 to 2% at best for the year. But gauged by processing power, vendors of advanced midrange systems and providers of 32-bit personal computers and workstations produced upwards of 20% more horsepower than they did the previous year.

An Industry Comeback?

Do such business conditions give systems customers the upper hand when negotiating prices? Maybe yes—for suppliers that have done little to improve their product lines. But maybe no—where suppliers have dramatically improved their computers' performance.

Unfortunately for computer hardware manufacturers, the downward trend in shipment revenues continues. Cahners Economics expects growth in shipments to bottom out in the third quarter of 1990. That scenario places U.S. shipments growth for computers and office equipment at just 1.6% in 1990.

DATAMATION and Cowen & Co.'s recently completed study of buying intentions among U.S. users of PCs, workstations and midrange systems confirms this outlook, to a degree. Although the study projects a 27.3% increase in workstation revenues and an 11.3% gain in PCs, it forecasts a 10.5% decline in the dollar value of minicomputer shipments between July 1989 and June 1990. Because minicomputers carry a much higher price tag than workstations—$103,000 vs. $13,000 on average—their drop in popularity has a much bigger impact on the industry's financial health.

Smart VARs

New large-systems announcements like Tandem Computers Inc.'s Cyclone family, Digital Equipment Corp.'s VAX 9000 mainframe and IBM's 3090 J and JH models should improve well-being, by mid-1990, when these systems begin shipping in significant quantities.

Still, the short-term outlook, while not rosy, could be worse. In this latest U.S. economic contraction, lower inventories will help break the industry's fall. In the prior boom-bust cycle for the computer industry, the inventory-to-shipments (I/S) ratio (another term for current supply) swelled from 2.33 months' worth of inventory in May 1984 to 2.70 in April 1985 according to the U.S. Department of Commerce. This time around, the story reads differently. Since June 1988 when the I/S ratio equaled 1.91 months, the ratio has fluctuated but has moved no higher than 2.29.

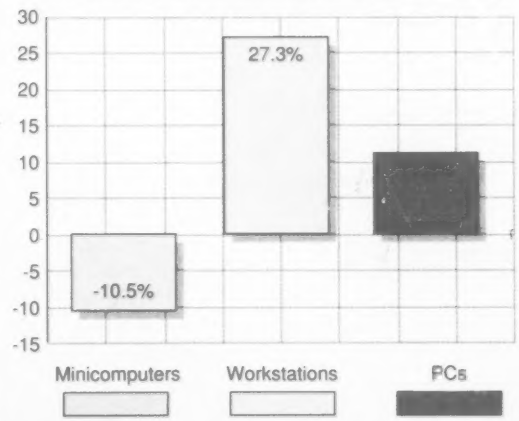
So although I/S ratios have crept back up, they still reflect disciplined inventory levels. No major inventory stockpiling means no severe correction. This stability supports the contention of a milder downturn for the computer industry compared with 1986.

Looking for the next upturn for the computer and office equipment industry? Turn your calendar to 1991. The word from Cahners Economics is a 12% hike in U.S. factory shipments of computers and office equipment in 1991 ▭

Minis Drag Down the Market...

Despite the strong growth of workstations and PCs, the drop in minicomputer demand is pulling the industry down to an overall 9.4% revenue growth rate.

PROJECTED SHIPMENT GROWTH (IN DOLLARS)



...But Don't Plan to Buy Minis Cheap

The average price of a minicomputer is rising, while the price tag on a workstation continues to fall.

AVERAGE PRICE (IN DOLLARS)